

REMARKS

Claims 1, 2, 4, 6, 7, 11-17, 19, 20, and 24-28 are pending. Claims 1, 2, 6, 7, 16, 19, and 20 have been amended and the specification has been amended to correct typographical errors.

Reconsideration of the application is respectfully requested for the following reasons.

In the Office Action, claims 1, 2, 4, 6, 7, 11, 12, 15-17, 19, 20, 24, 27, and 28 under 35 USC § 103(a) for being obvious in view of a Hiramatsu-Ohashi-Eastmond combination. Applicants request the Examiner to withdraw this rejection for the following reasons.

Claim 1 covers an invention where a plurality of antennas is sequentially selected for purposes of transmitting data blocks. For example, as shown in Figure 5, under normal operating conditions (e.g., when no error signal is received), data blocks are alternately transmitted through antennas 1 and 2. This sequential selection is made more evident by the following recitations in claim 1: transmitting a first data block through a first one of a plurality of sequentially selected antennas and transmitting a second data block through a second one of the plurality of antennas.” (In Figure 5, for example, sub-frame 1 corresponds to the first data block and sub-frame 2 corresponds to the second data block).

In addition, claim 1 recites receiving a first signal (e.g., NACK) indicating that an error occurred during transmission or reception of the first data block, the first error signal received after transmission of the second data block, and then interrupting sequential selection of the plurality of antennas to select the second one of the plurality of antennas in response to the first error signal.

The first data block is then retransmitted through the second one of the plurality of antennas, under conditions where “the first data block is retransmitted in consecutive sequence with the second data block transmitted by the second one of the plurality of antennas, said interruption of sequential selection of the plurality of antennas preventing the first data block from being retransmitted through the first one of the plurality of antennas.” Sequential selection of the antennas is then resumed after retransmission of the first data block. These features are not taught or suggested by the cited references.

A. The Hiramatsu Patent

The Hiramatsu patent discloses a data transmission system having two antennas. Data is transmitted through the same antenna until an error message is received. (See column 6, lines 42-44). Thus, Hiramatsu does not teach or suggest performing a “sequential selection of a plurality of antennas” for purposes of transmitting data blocks. Rather, Hiramatsu makes clear that changer 113 only changes antennas when an error message is received. Otherwise, Hiramatsu continues to transmit data through the same antenna.

Without a sequential selection of antennas, it is further submitted that Hiramatsu does not teach or suggest “interrupting sequential selection of the plurality of antennas to select the second one of the plurality of antennas in response to the first error signal.” As defined in claim 1, the “first error signal” indicates that an error occurred during transmission or reception of the first data block. Hiramatsu does not change antennas to interrupt a sequential selection of its antennas when the error message disclosed at column 6, lines 42-44 is received. Rather,

Hiramatsu only changes antennas when a report of signal quality is received, which report is received after the error message has been received.

Hiramatsu further discloses that the data is not retransmitted in response to its error message. Rather, a request for a report on signal quality is transmitted, and then and only then is the data is retransmitted but not in response to the error message, but instead in response to receipt of the report on signal quality. (See column 6, lines 44-51). Thus, if no signal quality report were ever received, the data would never been retransmitted by the Hiramatsu transmitter.

In addition, Hiramatsu fails to teach or suggest retransmitting the first data block through the second one of the plurality of antennas, under conditions where “the first data block is retransmitted in consecutive sequence with the second data block transmitted by the second one of the plurality of antennas, said interruption of sequential selection of the plurality of antennas preventing the first data block from being retransmitted through the first one of the plurality of antennas.” Hiramatsu also does not disclose resuming sequential selection of the plurality of antennas after the data block is retransmitted through the second one of the plurality of antennas, and transmitting additional data blocks through the sequentially selected antennas as is further recited in claim 1.

B. The Ohashi Patent

The Ohashi patent discloses switching transmission antennas when an antenna-switching requiring factor occurs. One factor includes an error that occurs during the transmission of data. (See column 8, line 41). However, unlike claim 1, when such an error is

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received, the Ohashi patent begins a retransmission process which involves repeatedly transmitting the same data a predetermined number of times through sequentially changed combinations of the antennas. (See column 12, lines 43-46).

This sequential transmission is performed through all of the antennas including the antenna that initially transmitted the error data. This is clear from column 13, lines 23-27, which discloses that when the retransmission count reaches 4 (meaning that the same data has been transmitted through antennas 11 and 12 twice each), then the retransmission process is completed. Thus, Ohashi redundantly transmits the data through all of its antennas multiple times. Moreover, Ohashi retransmits only the error data redundantly and not in consecutive sequence with new data to be initially transmitted.

In contrast, claim 1 recites the first data block is retransmitted through the second one of the plurality of antennas, under conditions where “the first data block is retransmitted in consecutive sequence with the second data block transmitted by the second one of the plurality of antennas, said interruption of sequential selection of the plurality of antennas preventing the first data block from being retransmitted through the first one of the plurality of antennas.” Sequential selection of the antennas is then resumed after retransmission of the first data block. These features are not taught or suggested by the Ohashi patent.

C. The Eastmond Patent

The Eastmond patent discloses transmitting a consecutive sequence of blocks. But Eastmond does not teach or suggest the features of claim 1 missing from the Hiramatsu and Ohashi patents as outlined above.

Based on these differences, it is respectfully submitted that claim 1 is allowable over a Hiramatsu-Ohashi-Eastmond combination. Furtherance of claim 1 and its dependent claims to allowance is respectfully requested.

Claim 6 has been amended to more closely cover alternative embodiments of the invention including but not limited to the embodiment that corresponds to Figure 7 of the application drawings. As amended, claim 6 recites many features similar to the ones which patentably distinguish claim 1 from the cited references.

For example, claim 6 recites “sequentially selecting a plurality of antennas to transmit data, wherein a first antenna is selected to transmit a first data block and a second antenna is selected to a second data block, the first and second data blocks being consecutive data blocks, receiving a first signal indicating that an error occurred during transmission or reception of the first data block, the first error signal received after transmission of the second data block; interrupting sequential selection of the plurality of antennas to select the second antenna in response to the first error signal; retransmitting the first data block through the second antenna, wherein the first data block is retransmitted in consecutive sequence with the second data block transmitted by the second antenna, said interruption of sequential selection of the plurality of

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antennas preventing the first data block from being retransmitted through the first one of the plurality of antennas.” These features are not taught or suggested by the Hiramatsu, Ohashi, or Eastmond patents, whether taken alone or in combination.

In addition, claim 6 recites “transmitting additional data blocks through the second antenna, the additional data blocks transmitted in consecutive sequence after retransmission of the first data block.” These features are also not taught or suggested by Hiramatsu, Ohashi, or Eastmond patents, whether taken alone or in combination.

Claim 16 has been amended to recite features similar to those added to claim 1, which is patentably distinguishable from the cited combination for the above-noted reasons. Furtherance of claim 16 and its dependent claims to allowance is therefore respectfully requested.

Claim 19 has been amended to recite features similar to those added to claim 6, which is patentably distinguishable from the cited combination for the above-noted reasons. Furtherance of claim 6 and its dependent claims to allowance is therefore respectfully requested.

Claims 13, 14, 25, and 26 were rejected under 35 USC § 103(a) for being obvious in view of a Hiramatsu-Ohashi-Eastmond-Texas Instruments combination. Applicants traverse these rejections on grounds that the Texas Instruments article do not teach or suggest the features of base claims 1 and 16 missing from the Hiramatsu, Ohashi, and Eastmond patents.

In view of the foregoing amendments and remarks, it is respectfully submitted that this application is in condition for allowance. Favorable consideration and prompt allowance are earnestly solicited.

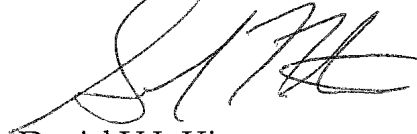
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To the extent necessary, a petition for an extension of time under 37 CFR § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

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